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CURRENT SERIAL RECORDS

*Spring  
Semester  
Evening  
Courses* X

**GRADUATE SCHOOL • U. S. DEPARTMENT OF AGRICULTURE**

Independence Avenue, between 12th and 14th Streets, Southwest, Washington, D. C. 20250 • DUDley 8-6337

*Register  
January 18-25*



- Courses for High School and College Graduates
- Training for Federal Employees

## REGISTER JANUARY 18-25

### General Information

**Registration Week:** January 18-25, in the Patio (first floor) of the Administration Building, U. S. Department of Agriculture, 14th Street and Independence Avenue, S.W., Washington, D. C. 20250. (No registration Inauguration Day, January 20.)

Saturdays 9:00 a.m.-4:00 p.m.

Monday-Friday 11:00 a.m.-6:30 p.m.

**Procedures:** Registration must be completed in person, or by someone acting for the registrant. Registration may not be completed by mail. Transcripts of previous educational records are not required, but graduation from high school, or the equivalent, is the general prerequisite for all courses. The more advanced courses have specific prerequisites. These are listed in the course descriptions contained in the catalog. Copies of the catalog are available in the personnel and training offices of agencies of the Federal Government and in the Graduate School office. Copies can also be obtained at the time of registration.

**Academic Credit:** Any student wishing to receive credit elsewhere for Graduate School courses should consult in advance with the college or university in which he plans to take a degree.

**Counseling:** Members of the Graduate School staff are on hand for counseling before and during the registration period.

**Fees:** The charge for tuition is in general \$16 for each credit hour, payable at the time of registration. Arrangements may be made to pay one-half of the tuition at that time, in addition to a \$1.00 service charge. The second payment is due by February 20.

**Late Registration:** After January 25, a \$2.00 late registration fee is charged for each course. Late registrations will be accepted through January 31 with permission of the Registrar, but only if space permits.

**Course Transfers:** Until February 7, students may transfer from one course to another without extra charge, but only if space permits. After that date, there is a transfer fee of \$1.00. Transfers may be made only with the permission of the Registrar and the instructor concerned.

**Veterans:** A veteran eligible for training under the Veterans Readjustment Benefits Act of 1966 (Public Law 89-358) should consult the Registrar well in advance of registration so that approval can be obtained from the Veterans Administration.

**Class Schedule:** Classes begin the week of January 27 and end the week of May 12.

**Government Employees Training Act:** If a student plans to ask his agency to pay all or part of his tuition under the training legislation (Public Law 85-507), he should make these arrangements well in advance of registration week.

**Textbooks:** Textbooks can be purchased at the Graduate School Bookstore, Room 1419, South Building.

Registration Week, January 18-January 25

Monday-Friday, 11:00 a.m.-6:30 p.m.

Saturdays (January 18 and January 25 only) 9:00 a.m.-4:00 p.m.

First-third weeks of classes, January 27-February 14

Monday-Friday, 11:00 a.m.-6:30 p.m.

Beginning February 17

Monday-Friday, 11:00 a.m.-1:00 p.m. and 4:30 p.m.-6:15 p.m.

Bookstore Information: DUDley 8-6070

**Withdrawals and Refunds:** When a student withdraws from a course, a refund is granted in accordance with the following schedule:

Through February 7, tuition less \$5.00 for each course.

February 10-20, 60 per cent of total tuition only. No other fees refunded.

February 24-March 7, 50 per cent of total tuition only. No other fees refunded.

In case of partial payment, the note is cancelled and a small refund made.

Laboratory fees are refunded only during the first week of classes. Notice of withdrawal must be made in writing to the Graduate School office. Forms are available for that purpose. Refunds are computed as of the date that notice of withdrawal is received in the Graduate School office. No refunds will be granted for any reason after March 7.

**Credit-Audit Changes:** The deadline is March 7.

**Parking Space—Cafeteria:** Space for parking is available for students and faculty only after 6:00 p.m. in two parking courts on the far east and south sides of the Administration Building. There is also space on the Mall, north of the Administration Building. The cafeteria, in the fourth wing of the South Building, is open from 5:00 to 6:30 p.m.

**Office Hours:** The Registrar's office, Room 1031, South Agriculture Building, 14th Street and Independence Avenue, S.W., Washington, D. C. 20250, is open from 9:00 a.m. to 6:15 p.m. Monday through Friday.

**Telephone DUDley 8-6337 (Code 111, extension 6337)**

## SCHEDULE OF CLASSES

Registration January 18-25

Classes begin January 27

(No registration, Inauguration Day, January 20)

No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
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### BIOLOGICAL SCIENCES

- |        |   |               |             |              |              |       |   |
|--------|---|---------------|-------------|--------------|--------------|-------|---|
| 1-115B | Introduction to Modern Biology  | (Second Half) | (2)         | Butler       | Tu 6:10-8    | \$32  |   |
|        | and \$2 laboratory fee p. 13  |               |             |              |              |       |   |
| 1-126  | Medical Terms Simplified  | (2)           | Gillespie   | Tu 6:10-8    | \$32         | p. 13 |   |
|        | (Meets at National Library of Medicine, Bethesda, Maryland)   |               |             |              |              |       |   |
| 1-516  | Data Processing in Medicine   | (3)           | Diephaus    | W 6:10-8:40  | \$48         | p. 13 |   |
| 1-560  | Fundamentals of Medical Microbiology  | (3)           | Fusillo     | Th 6:10-8:40 | \$48         |       |   |
|        | p. 14 (Meets at Veterans Administration Hospital)   |               |             |              |              |       |   |
| 1-426  | Pathology of Individual Organs and Systems  | (3)           | Burns       | W 6:10-8:40  | \$48         | p. 14 |   |
| 1-146B | Applied Physiology  | (Second Half) | (3)         | Greenbaum    | Tu 6:10-8:40 | \$48  |   |
|        | p. 14 (Meets at National Naval Medical Center)  |               |             |              |              |       |   |
| 1-147  | Physiology of Human Development   | (3)           | Greenbaum   | Th 6:10-8:40 | \$48         |       |   |
|        | p. 14 (Meets at National Naval Medical Center)  |               |             |              |              |       |   |
| 1-150  | Ornithology   | (3)           | Messersmith | Tu 6:10-8:40 | \$48         | p. 14 |   |
| 1-420  | Plant Physiology  | (2)           | Woodstock   | Th 4:45-6:25 | \$32         | p. 15 |   |
|        | (Meets at Agricultural Research Center, Bethesda, Maryland)   |               |             |              |              |       |   |
| 1-570B | Design of Experiments in Biological Sciences  | (Second Half) | (2)         | Koch         | Tu 4:45-6:35 | \$32  | p. 15 (Meets at Plant Industry Station, Beltsville, Maryland) |
| 1-580  | Biochemistry and Physiology of Fruits   | (2)           | Faust       | W 4:45-6:35  | \$32         |       |   |
|        | (Meets at Plant Industry Station, Beltsville, Maryland)   |               |             |              |              |       |   |
|        | (Pathways and control of biochemical reactions specific for bulky plant organs. Carbohydrate metabolism. Pectin metabolism. Acid formation. Development of phenolic compounds. Theories of fruit ripening. Biochemical considerations for controlled atmosphere storage of fruits. Color development. Softening. Metabolic disorders of fruits. Prerequisites: For the advanced student with background in biochemistry or doing research in broad area of fruit physiology.) |               |             |              |              |       |   |

### Natural History Field Studies

(Register January 18-25 for all courses)

- |       |  |     |                       |           |      |       |   |
|-------|--|-----|-----------------------|-----------|------|-------|---|
| 1-132 | Introduction to the Outdoors   | (1) | Lavell and Associates | M 6:10-8  | \$16 |       |   |
|       | p. 16 (7 weeks beginning March 24. Field trips March 29; April 12, 26; May 10) |     |                       |           |      |       |   |
| 1-142 | Plant Identification I   | (1) | Donnald and Johnson   | Th 6:10-8 | \$16 | p. 16 |   |
|       | (8 weeks beginning January 30. Field trip February 15)                         |     |                       |           |      |       |   |
| 1-145 | Plant Identification II  | (1) | Donnald and Johnson   | Th 6:10-8 | \$16 | p. 16 |   |
|       | (8 weeks beginning March 27. Field trips April 19; May 3)                      |     |                       |           |      |       |   |
| 1-130 | Physical Environment I: Geology  | (1) | Davies                | W 6:10-8  | \$16 | p. 17 |   |
|       | (7 weeks beginning March 26. Field trips April 5, 19; May 3)                   |     |                       |           |      |       |   |
| 1-133 | Introduction to Ecology  | (1) | Monson                | M 6:10-8  | \$16 | p. 17 |   |
|       | (8 weeks beginning January 27)   |     |                       |           |      |       |   |
| 1-125 | Physical Environment III: Soils and Landscape                                  | (1) | Simpson and Kirby     | Tu 6:10-8 | \$16 | p. 17 | (7 weeks beginning April 1. Field trips April 5, 19; May 3) |
| 1-139 | Wildlife Populations   | (1) | Challinor             | Tu 6:10-8 | \$16 | p. 17 |   |
|       | (8 weeks beginning January 28)   |     |                       |           |      |       |   |
| 1-141 | Biotic Communities II: Coniferous Forests                                      | (1) | Osborn                | M 6:10-8  | \$16 |       |   |
|       | p. 18 (7 weeks beginning March 31. Field trips April 5, 19; May 3)             |     |                       |           |      |       |   |
| 1-140 | Principles of Land Use and Conservation  | (1) | Osborn and Williams   | W 6:10-8  | \$16 | p. 18 | (8 weeks beginning January 29. Field trips March 1, 15)     |
| 1-136 | Nature Teaching  | (1) | Trott                 | Tu 6:10-8 | \$16 | p. 18 |   |
|       | (7 weeks beginning March 25. Field trips March 29; April 12, 26)               |     |                       |           |      |       |   |
| 1-143 | Insect Life  | (1) | Harrison              | W 6:10-8  | \$16 | p. 18 |   |
|       | (8 weeks beginning January 29)   |     |                       |           |      |       |   |
| 1-144 | Rocks and Fossils  | (1) | McGregor              | W 6:10-8  | \$16 | p. 19 |   |
|       | (7 weeks beginning April 2. Field trips April 12, 26; May 10)                  |     |                       |           |      |       |   |
| 1-152 | Conservation in Action   | (1) | Kaniuka and Mergen    | W 6:10-8  | \$16 | p. 19 |   |
|       | (7 weeks beginning April 2. Field trips April 12, 26; May 10)                  |     |                       |           |      |       |   |



## LANGUAGES AND LITERATURE

### English—Grammar and Writing

- 2-29      Spelling and Basic Vocabulary (non-credit)    Neuman    M 6:10-8    \$32    p. 23
- 2-112    Practical English Usage (2)    \$32    p. 23  
           Section I    Amabile    M 6:10-8  
           Section II    Holt    Tu 6:10-8  
           Section III    Lewis    W 6:10-8
- 2-35      English for Secretaries (non-credit)    Hubbard    Tu 6:10-8    \$32    p. 23
- 2-95      Improving Reading Ability (non-credit)    \$48    p. 23    (8 weeks)  
           Section I    Henderson    M-W 6:10-8  
           Section II    Henderson    M-W 8:10-10
- 2-38      English for Foreigners I (non-credit)    Weeks    M 6:10-8    \$32    p. 24
- 2-52      English for Foreigners II (non-credit)    Weeks    Tu 6:10-8    \$32    p. 24
- 2-53      English for Foreigners III (non-credit)    Weeks    Th 6:10-8    \$32    p. 24
- 2-119    Vocabulary Building (3)    \$48    p. 24  
           Section I    Phagan    W 6:10-8:40  
           Section II    Lukstat    Th 6:10-8:40
- 2-222A   English Composition (First Half) (3)    Daniels    W 6:10-8:40    \$48    p. 24
- 2-222B   English Composition (Second Half) (3)    \$48    p. 24  
           Section I    Reed    M 6:10-8:40  
           Section II    Traylor    Th 6:10-8:40
- 2-230    Sentence Revision (2)    Robinson    Th 6:10-8    \$32    p. 24
- 2-250    College Rhetoric (3)    Freeman    M 6:10-8:40    \$48    p. 25
- 2-226    Official Writing (2)    \$32    p. 25  
           Section I    Schaal    M 6:10-8  
           Section II    Doan    W 6:10-8
- 2-235    Fiction Writing—Workshop (2)    Eisenberg    M 6:10-8    \$32    p. 25
- 2-281    Advanced Feature Writing (2)    Dolan    Tu 6:30-8:20    \$32    p. 25
- 2-450    Technical Writing (2)    Carter    M 6:10-8    \$32    p. 25

### Literature

- 2-216    American Literature II (3)    Henry    Tu 6:10-8:40    \$48    p. 26
- 2-217    American Negro Literature (3)    Kaplin    M 6:10-8:40    \$48  
           (Survey of various genres of American Negro literature from pre-Civil War to modern. Primary emphasis on literary analysis. Consideration of historical context of works and social values reflected. Authors include, but not restricted to, W. E. B. du Bois, James Baldwin, Langston Hughes, Richard Wright, and Le Roi Jones. Prerequisites: One college level course in literature recommended. English Composition also helpful.)
- 2-330B   Great Books (Second Half) (2)    Ruppert    M 6:10-8    \$32    p. 26
- 2-405B   Literary Masterpieces of Orient (Second Half) (3)    Arasteh    Th 6:10-8:40    \$48    p. 27
- 2-79      Communication with New Twist (non-credit)    Birch    M 6:10-8    \$22  
           (10 weeks)  
           (Sequel to Poems, Puzzles, Puns, and Paradox, which is not a prerequisite. Designed to encourage competent writer to explore ways of making his message remain in memory of reader until it becomes part of thought-pattern or decision background.)

### Information Methods

- 2-225    Principles of Editing and Their Application (3)    \$48    p. 27  
           Section I    Fitton    W 6:10-8:40  
           Section II    Smith    W 6:10-8:40
- 2-239    Intermediate Editing (3)    Perlmutter and Sharp    Tu 6:10-8:40    \$48    p. 27
- 2-360    Advanced Practice in Editing (3)    Edwards    W 6:10-8:40    \$48    p. 27
- 2-237    Printing, Layout, and Design (2)    Murow and Associates    M 6:10-8    \$32  
           p. 28
- 2-243    Design in Visual Communication (2)    Granahan    Th 6:10-8    \$32    p. 28
- 2-276    Documentary Film (2)    Schwartz    M 7-8:50    \$32  
           (Meets at Montgomery Blair High School, Silver Spring, Maryland)  
           (Definitive screenings and production discussions of all types of documentaries for professional script writing course. Along with critical evaluation of important examples of non-theatricals from early 1900's to today, each student will plan, research, and write treatment and/or final shooting script.)

No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
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## Library Techniques

2-125	Introduction to Library Service	(2)	Moran	M	6:10-8	\$32	p. 29
2-139	Cataloging and Classification II	(2)				\$32	p. 29
	Section I Birch		M	6:10-8			
	Section II Keerdoja		Th	6:10-8			
2-137	Basic Reference Service and Reference Tools	(2)	Birch	W	6:10-8	\$32	p. 29
2-136	Principles of Library Organization	(2)	Larkin	Th	6:10-8	\$32	p. 30
2-170	Children's Literature	(2)	Haviland	M	6:10-8	\$32	p. 30
2-153	Automation of Library Operations	(2)	Lebowitz	Th	6:10-8	\$32	p. 30
2-152	Documentation	(2)	Lebowitz	Tu	6:10-8	\$32	p. 30
2-160	Library Techniques—Seminar	(3)	Sherrod	Th	6:10-8:40	\$48	p. 31

## Speech

2-228	Public Speaking for Beginners	(2)	Miller	Th	6:10-8	\$32	p. 31
2-229	Advanced Public Speaking	(2)	Donahue	W	6:10-8	\$32	p. 31
2-246	Voice and Diction	(2)	Fitzgerald	Tu	6:10-8	\$32	p. 31

## Foreign Languages

2-209B	Introduction to Linguistics (Second Half)	(3)	Thompson	W	6:10-8:40	\$48	p. 32
2-219	Principles of Translation	(3)	La Roche	M	6:10-8:40	\$48	p. 32

## French

2-253A	Elementary French (First Half)	(3)				\$48	p. 33
	Section I Bargin		M	6:10-8:40			
	Section II de Constant		Tu	6:10-8:40			
2-253B	Elementary French (Second Half)	(3)				\$48	p. 33
	Section I Thatcher		Tu	6:10-8:40			
	Section II Bargin		Tu	6:10-8:40			
2-254B	Intermediate French (Second Half)	(3)	Bargin	Tu	6:10-8:40	\$48	p. 33
2-68	Reading French (non-credit)		de Constant	M	6:10-8:40	\$48	p. 33
2-87	Basic Conversational French (non-credit)		Bargin	W	6:10-8:40	\$48	p. 33
2-255	Advanced French Conversation and Composition	(3)	Thatcher	Tu	6:10-8:40	\$48	p. 33
2-258	Advanced French Reading	(3)	de Constant	W	6:10-8:40	\$48	p. 33
2-284	French Contemporary Life	(3)	d'Haucourt	Th	6:10-8:40	\$48	p. 33

## German

2-259A	Elementary German (First Half)	(3)	Hoffmann	Tu	6:10-8:40	\$48	p. 33
2-259B	Elementary German (Second Half)	(3)	Hoffmann	Th	6:10-8:40	\$48	p. 33
2-260B	Intermediate German (Second Half)	(3)	Rose	W	6:10-8:40	\$48	p. 34
2-88	Basic Conversational German I (non-credit)		von Luttichau	Tu	6:10-8:40	\$48	p. 34
2-96	Basic Conversational German II (non-credit)		von Luttichau	Th	6:10-8:40	\$48	p. 34
2-196	Reading Scientific German I	(3)	Neil	Th	6:10-8:40	\$48	p. 34
2-197	Reading Scientific German II	(3)	Neil	M	6:10-8:40	\$48	p. 34

## Italian

2-270B	Elementary Italian (Second Half)	(3)	Bauer	Tu	6:10-8:40	\$48	p. 34
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## Portuguese

2-290B	Elementary Portuguese (Second Half)	(3)	Luxardo	Tu	6:10-8:40	\$48	p. 34
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## Russian

2-295A	Elementary Russian (First Half)	(3)	Richter	M	6:10-8:40	\$48	p. 35
2-295B	Elementary Russian (Second Half)	(3)				\$48	p. 35
	Section I Fediy		Tu	6:10-8:40			
	Section II Richter		Tu	6:10-8:40			
2-296B	Intermediate Russian (Second Half)	(3)	Gerich	Th	6:10-8:40	\$48	p. 35

No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
2-299B	Advanced Russian (Second Half)	(3)	Richter	Th	6:10-8:40	\$48	p. 35
2-292	Scientific Russian I	(3)	Boldyreff	M	6:10-8:40	\$48	p. 35
2-294	Scientific Russian II	(3)	Boldyreff	W	6:10-8:40	\$48	p. 35
2-31	Russian Poetry (non-credit)		Boldyreff	F	6:10-8:40	\$48	p. 36

### Spanish

2-300A	Elementary Spanish (First Half)	(3)	Otero	Th	6:10-8:40	\$48	p. 36
2-300B	Elementary Spanish (Second Half)	(3)	Jaffe	M	6:10-8:40	\$48	p. 36
2-301B	Intermediate Spanish (Second Half)	(3)	Brouwer	Th	6:10-8:40	\$48	p. 36
2-302B	Advanced Spanish Conversation and Composition (Second Half)	(2)	Lasaga	Th	6:10-8	\$32	p. 36
2-83	Basic Conversational Spanish I (non-credit)					\$32	p. 36
	Section I		Lasaga	Tu	6:10-8		
	Section II		Otero	Tu	6:10-8		
2-84	Basic Conversational Spanish II (non-credit)		Otero	M	6:10-8	\$32	p. 36

### Swahili

2-210B	Elementary Swahili (Second Half)	(3)	de Lany	Tu	6:10-8:40	\$48	p. 36
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## MATHEMATICS AND STATISTICS

### Mathematics

3-8	Intermediate Algebra (non-credit)					\$48	p. 38
	Section I		Butler	Tu	6:10-8:40		
	Section II		Fox	Th	6:10-8:40		
3-30	Basic Mathematics (non-credit)		Stambul-Sheik	Tu	6:10-8	\$32	p. 37
3-1B	Review of College Freshman Mathematics (Second Half) (non-credit)		Diamond	M	6:10-8	\$32	p. 38
3-2	Review of Calculus (non-credit)		Hussong	W	6:10-8:40	\$48	p. 38
3-102	College Algebra (4)					\$64	p. 38
	Section I		Lacher	M-W	6:10-8		
	Section II		Gordon	Tu-Th	6:10-8		
3-103	Trigonometry and Analytic Geometry (4)					\$64	p. 38
	Section I		Howeroft	M-W	6:10-8		
	Section II		Benedik	Tu-Th	6:10-8		
3-206A	Calculus (First Half) (4)					\$64	p. 39
	Section I		Ogden and Stembel	M-W	6:10-8		
	Section II		Spooner	Tu-Th	6:10-8		
3-206B	Calculus (Second Half) (4)		Mitchell	M-W	6:10-8	\$64	p. 39
3-415A	Elementary Matrix Theory (First Half) (3)		Davis	M	6:10-8:40	\$48	p. 39
3-415B	Elementary Matrix Theory (Second Half) (3)		Gambino	Tu	6:10-8:40	\$48	p. 39
3-444	Elements of Abstract Algebra (3)		Sanburn	Th	7-9:30	\$48	p. 39
3-502B	Differential Equations (Second Half) (3)		McGrane	M	6:10-8:40	\$48	p. 39
3-500B	Topics in Higher Applied Mathematics (Second Half) (3)		Kjeldgaard	M	6:10-8:40	\$48	p. 39
3-310B	Introduction to Probability Theory (Second Half) (3)		Raff	Tu	6:10-8:40	\$48	p. 39
3-312B	Numerical Methods in Computation (Second Half) (2)		Meals	F	6:10-8	\$32	p. 40
3-315	Introduction to Modern Mathematics (3)		Clark	Th	6:10-8:40	\$48	p. 40
3-546B	Application of Differential Equations to Engineering Theory and Related Problems including Wave Theory (Second Half) (3)		McGrane	W	6:10-8:40	\$48	p. 40
3-508	Theory of Errors (3)		Stearn	W	6:10-8:40	\$48	p. 40
3-509B	Mathematics for Economists (Second Half) (3)		Rojko	W	6:10-8:40	\$48	p. 40
3-541	Mathematical Methods and Theory in Games and Programming (3)		Mylander	W	6:10-8:40	\$48	p. 41
3-534	Introduction to Operations Research II (3)		Miller	Th	6:10-8:40	\$48	p. 41



No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
3-418	<b>Mathematical Modelling in Physical and Social Sciences and Operations Research</b>	(3)	Saaty	W	6:10-8:40	\$48	
	(Designed to illustrate by large number of examples formulation of mathematical models for variety of real world problems, and to encourage model formulation and help move it from area of instinctive creative thought to systematic practice. <b>Prerequisites:</b> Mature grasp of differential equations, matrix theory, and probability theory as basic foundation. Also willingness to participate in classroom discussion of mathematical models of real-life phenomena.)						

## Statistics

3-6	<b>Preparatory Mathematics for Introductory Statistics</b>	(non-credit)				\$32	p. 42
	Section I	Caudill	M	6:10-8			
	Section II	Kibler	Tu	6:10-8			
3-126A	<b>Introductory Statistics</b>	(First Half)	(3)			\$48	p. 43
	Section I	Moore	Tu	6:10-8:40			
	Section II	Hart	W	6:10-8:40			
	Section III	Urban	Th	6:10-8:40			
3-126B	<b>Introductory Statistics</b>	(Second Half)	(3)			\$48	p. 43
	Section I	Condie	M	6:10-8:40			
	Section II	West	Tu	6:10-8:40			
	Section III	Naleszkiewicz	F	6:10-8:40			
3-380B	<b>Principles of Statistical Analysis</b>	(Second Half)	(3)			Stauber	
	Tu-Th	6-7:15				\$48	p. 43
3-385B	<b>Elements of Statistical Methods</b>	(Second Half)	(2)			Richardson	
	M	4:45-6:35				\$32	p. 43
	(Meets at Agricultural Research Center, Beltsville, Maryland)						
3-318	<b>Machine Tabulation I</b>	(2)	Pell	Tu	6:10-8	\$32 and \$5 laboratory fee	p. 43
3-319	<b>Machine Tabulation II</b>	(2)	Pell	Th	6:10-8	\$32 and \$5 laboratory fee	p. 44
3-400B	<b>Mathematical Statistics</b>	(Second Half)	(4)			Melnick	M-W 6:10-8 \$64
						p. 44	
3-735B	<b>Theory of Sample Surveys</b>	(Second Half)	(2)			Steinberg and Waksberg	
	W	6:10-8				\$32	p. 45

## Electronic Data Processing

4-105	<b>Basic Concepts of Data Processing</b>	(3)				\$48	p. 54
	Section I	Suter	M	6:10-8:40			
	Section II	Redmer	M	6:30-9			
	(Meets at National Library of Medicine, Bethesda, Maryland)						
	Section III	Weiss	M	6:10-8:40			
	(Meets at Library of Congress)						
	Section IV	Richardson	M	6:10-8:40			
	Section V	Alexander	Tu	6:10-8:40			
	Section VI	Geiger	Tu	6:10-8:40			
	Section VII	Willey	Tu	6:10-8:40			
	Section VIII	Nicholson	W	6:10-8:40			
	Section IX	Strite	W	6:10-8:40			
	Section X	Redmer	Th	6:30-9			
	(Meets at National Library of Medicine, Bethesda, Maryland)						
	Section XI	Nicholson	Th	6:10-8:40			
	(Meets at Agricultural Research Center, Bethesda, Maryland)						
	Section XII	Bolton	Tu	4:45-7:15			
	(Meets at U. S. Naval Oceanographic Office, Suitland, Maryland)						
3-318	<b>Machine Tabulation I</b>	(2)	Pell	Tu	6:10-8	\$32 and \$5 laboratory fee	p. 43
3-319	<b>Machine Tabulation II</b>	(2)	Pell	Th	6:10-8	\$32 and \$5 laboratory fee	p. 44
3-321	<b>Operators Training IBM 360/30</b>	(3)	Lair	W	6:10-8:40	\$48	p. 47
3-322	<b>O. S. Operators Training System 360</b>	(3)	Borough	Th	6:10-8:40	\$48	p. 47
3-559A	<b>Electronic Data Processing—General</b>	(First Half)	(3)			\$48	p. 47
	Section I	Brown	W	6:10-8:40			
	Section II	Warncke	Th	6:10-8:40			
3-559B	<b>Electronic Data Processing—General</b>	(Second Half)	(3)			Pinon	
	Th	6:10-8:40				\$48	p. 47
3-345	<b>Computer Programming: Overview</b>	(3)				\$48	p. 47
	Section I	Copeland	Tu	6:10-8:40			
	Section II	Sampson	Th	6:10-8:40			
3-563	<b>Data Processing on Large-Scale Electronic Computers</b>	(3)				\$48	p. 47
	Section I	McGann	W	6:10-8:40			
	Section II	McGann	Th	6:10-8:40			

No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
3-596	Elements of Digital Data Processing	(3)	Schumaker	Th	6:10-8:40	\$48	p. 47
3-562	ADP System—Analysis, Design, Acquisition, and Operation	(3)	Combs	M	6:10-8:40	\$48	p. 48
3-576B	Data Processing on Large-Scale Electronic Computers—UNIVAC 1108 (Second Half)	(3)	Brown	M	6:10-8:40	\$48	p. 48
3-573B	Programming Honeywell 200 (Second Half)	(3)	Murphy	Tu	6:10-8:40	\$48	p. 48
3-592	IBM System 360 Introduction	(3)	\$48	p. 48			
	Section I	Johnson	M	6:10-8:40			
	Section II	Haverlock	Tu	6:10-8:40			
	Section III	Robin	Tu	6:10-8:40			
	(Meets at National Bureau of Standards, Gaithersburg, Maryland)						
	Section IV	Tardiff	W	6:10-8:40			
	Section V	Witters	Th	6:10-8:40			
	Section VI	Trefftzs	Th	6:10-8:40			
3-607	IBM System 360 Assembly Language Coding	(3)	\$48	p. 49			
	Section I	Beck	W	6:10-8:40			
	Section II	Heard	W	6:10-8:40			
3-608	IBM System 360 Disk/Tape Operating System Facilities	(2)	Heard	M	6:10-8	\$32	p. 49
3-609	IBM System 360 Disk/Tape Operating System Coding	(3)	Mattman	Tu	6:10-8:40	\$48	p. 49
3-610	IBM System 360 Cobol	(3)	\$48	p. 49			
	Section I	Haverlock	Th	6:10-8:40			
	Section II	Wiley	Th	6:10-8:40			
3-611	IBM System 360 Fortran	(3)	Mattman	W	6:10-8:40	\$48	p. 49
3-612	IBM System 360 PL/I	(3)	Sampson	W	6:10-8:40	\$48	p. 49
3-595	Cobol Programming—Fundamentals	(3)	\$48	p. 50			
	Section I	Scichilone	M	6:10-8:40			
	Section II	Standifer	Tu	6:10-8:40			
	Section III	Gorman	W	6:10-8:40			
	Section IV	Zeller	Th	6:10-8:40			
	Section V	Droz	Th	6:10-8:40	(Meets at Library of Congress)		
3-589	Fortran Programming for Scientific and Business Computers	(3)	\$48	p. 50			
	Section I	Schumaker	Tu	6:10-8:40			
	Section II	Bolton	W	4:30-7			
	(Meets at U. S. Naval Oceanographic Office, Suitland, Maryland)						
	Section III	Burk	W	6:10-8:40			
	Section IV	Smith	Th	6:10-8:40			
3-762	Electronic Computer Methods for Statisticians	(3)	Steele	W	6:10-8:40	\$48	p. 51
3-737B	Systems Analysis and Design (Second Half)	(3)	Nowotny	Th	6:10-8:40	\$48	p. 51
1-516	Data Processing in Medicine	(3)	Diephaus	W	6:10-8:40	\$48	p. 13
2-153	Automation of Library Operations	(2)	Lebowitz	Th	6:10-8	\$32	p. 30
4-106	Information Storage and Retrieval by Computer	(3)	\$48	p. 54			
	Section I	Scott	M	6:10-8:40			
	(Meets at U. S. Naval Oceanographic Office, Suitland, Maryland)						
	Section II	Tyndall	Tu	6:10-8:40			
4-107	Elements of Information Retrieval	(3)	Lancaster	Th	6:10-8:40	\$48	p. 54
	(Meets at National Library of Medicine, Bethesda, Maryland)						
6-442	Personnel Planning for Change Under Automation	(2)	Schaffer	Th	6:10-8	\$32	p. 80
6-705	Computer Applications in Law	(2)	Beath	W	6:10-8	\$32	p. 81
7-464	Computers in Behavioral Sciences	(3)	White	W	6:10-8:40	\$48	p. 98
8-223	Map Projections and Grid Systems	(2)	Basile	Tu	6:10-8	\$32	p. 114
8-685	Engineering Applications of Digital Computers	(3)	Smith	Th	6:10-8:40	\$48	p. 106

## OFFICE TECHNIQUES AND OPERATIONS

### Administrative Procedures

4-101	Everyday Mathematics	(2)	\$32	p. 54
	Section I	Mouser	Tu	6:10-8
	Section II	Guyton	Th	6:10-8

No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
4-105	<b>Basic Concepts of Data Processing</b>	(3)	\$48	p. 54			
	Section I	Suter	M 6:10-8:40				
	Section II	Redmer	M 6:30-9				
	(Meets at National Library of Medicine, Bethesda, Maryland)						
	Section III	Weiss	M 6:10-8:40				
	(Meets at Library of Congress)						
	Section IV	Richardson	M 6:10-8:40				
	Section V	Alexander	Tu 6:10-8:40				
	Section VI	Geiger	Tu 6:10-8:40				
	Section VII	Willey	Tu 6:10-8:40				
	Section VIII	Nicholson	W 6:10-8:40				
	Section IX	Strite	W 6:10-8:40				
	Section X	Redmer	Th 6:30-9				
	(Meets at National Library of Medicine, Bethesda, Maryland)						
	Section XI	Nicholson	Th 6:10-8:40				
	(Meets at Agricultural Research Center, Beltsville, Maryland)						
	Section XII	Bolton	Tu 4:45-7:15				
	(Meets at U. S. Naval Oceanographic Office, Suitland, Maryland)						
4-106	<b>Information Storage and Retrieval by Computer</b>	(3)	\$48	p. 54			
	Section I	Scott	M 6:10-8:40				
	(Meets at U. S. Naval Oceanographic Office, Suitland, Maryland)						
	Section II	Tyndall	Tu 6:10-8:40				
4-107	<b>Elements of Information Retrieval</b>	(3)	Lancaster	Th 6:10-8:40	\$48	p. 54	
	(Meets at National Library of Medicine, Bethesda, Maryland)						
4-108	<b>Administrative Procedure</b>	(2)	\$32	p. 55			
	Section I	Bartolomeo	M 6:10-8				
	Section II	Wright	Tu 6:10-8				
4-201	<b>Modern Supervisory Practice</b>	(2)	\$32	p. 55	(12 weeks)		
	Section I	Berg	M 6:10-8:30				
	Section II	Koenig	Tu 6:10-8:30				
	Section III	Van Dersal	W 6:10-8:30				
4-206	<b>Essentials of Good Office Management</b>	(3)	Wagner	W 6:10-8:40	\$48		
	p. 55						
4-112A	<b>Federal Fiscal Procedure (First Half)</b>	(2)	\$32	p. 55			
	Section I	Robbins	W 6:10-8				
	Section II	Finotti	Th 6:10-8				
4-112B	<b>Federal Fiscal Procedure (Second Half)</b>	(2)	\$32	p. 55			
	Section I	Robbins	M 6:10-8				
	Section II	Finotti	M 6:10-8				
4-113	<b>Federal Property Procedure</b>	(2)	Boyer	M 6:10-8	\$32	p. 55	
4-114	<b>Federal Personnel Procedure</b>	(2)	Moriarty and Starns	Tu 6:10-8	\$32		
	p. 56						
4-115	<b>Federal Purchasing Procedure</b>	(2)	\$32	p. 56			
	Section I	Lough	M 6:10-8				
	Section II	Lough	W 6:10-8				
4-116	<b>Federal Budgetary Procedure: Formulation and Presentation</b>	(2)	\$32	p. 56			
	Section I	Goodrich	W 6:10-8				
	Section II	Murray	Th 6:10-8				
4-118	<b>Federal Budgetary Procedure: Execution and Fund Control</b>	(2)	\$32	p. 56			
	Section I	Bartolomeo	Tu 6:10-8				
	Section II	Van Lowe	W 6:10-8				
4-217	<b>Advanced Records Management</b>	(2)	Luttrell and Lando	Tu 6:10-8	\$32		
	p. 57						
4-421	<b>Writing Procedures and Instructions</b>	(2)	Vibbard	Tu 6:10-8	\$32	p. 57	
4-330	<b>Government Letter Writing</b>	(2)	Noordhoff	Tu 6:10-8	\$32	p. 57	

## Shorthand

4-89	<b>Review of Gregg Shorthand (Anniversary), 60-80 Words</b>	(non-credit)	Dow				
	M-Th 6:10-7:30 \$48 p. 58						
4-129	<b>Gregg Shorthand I</b>	(3)	\$48	p. 58			
	Section I	Fritz	M-Th 6:10-7:30				
	Section II	Gros	M-Th 6:10-7:30				
	Section III	Vallieres	M-Th 6:10-7:30				
	Section IV	Lewis	Tu-F 6:10-7:30				
4-130	<b>Gregg Shorthand II</b>	(3)	\$48	p. 58			
	Section I	Lewis	M-Th 6:10-7:30				
	Section II	Shaw	M-Th 6:10-7:30				

No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
4-225	Gregg Shorthand III (60-80 Words)	(3)	\$48	p. 59			
	Section I Brewer	M-Th 6:10-7:30					
	Section II Olsen	M-Th 6:10-7:30 (Simplified)					
4-226	Gregg Shorthand IV (80-100 Words)	(3)	Trottnow	M-Th	6:10-7:30	\$48	
	p. 59						
4-227	Gregg Shorthand V (100-120 Words)	(3)	Woznicki	M-Th	6:10-7:30	\$48	
	p. 59						

## PHYSICAL SCIENCES

### General

5-35	Exploration of Universe—Study Discussion Group (non-credit)	Schulman					
	M 6:10-8	\$22	p. 60	(10 weeks)			
5-175B	General Astronomy (Second Half)	(3)	Doggett	M	6:10-8:40	\$48	p. 60
5-176	Radio Astronomy (2)	Hobbs	W	6:10-8	\$32	p. 61	
5-765B	Practical Electronics for Biologists and Chemists (Second Half)	(2)					
	Wilkins	M 6:10-8	\$32	p. 61			

### Chemistry and Physics

5-100B	General Chemistry (Second Half)	(3)	Hertzberg	Th	6:10-8:40	\$48	
	p. 61						
5-248B	Organic Chemistry (Second Half)	(3)	Shine	Th	6:10-8:40	\$48	p. 62
5-512B	Advanced Organic Chemistry (Second Half)	(3)	Pohland	M	6:10-8:40	\$48	p. 62
	\$48						
5-315B	Elementary Biochemistry (Second Half)	(2)	Flick	W	6:10-8	\$32	p. 62
5-511	Cellular Biochemistry (2)	Margolis	M	6:10-8	\$32	p. 63	
5-339B	Physical Chemistry (Second Half)	(3)	Abramowitz	Th	6:10-8:40	\$48	
	p. 63						
5-717	Radiobiochemistry (3)	Bruckner	W	6:10-8:40	\$48	p. 63	
5-155B	Principles of Physics (Second Half)	(3)	Smith	Tu	6:10-8:40	\$48	p. 64
	(Designed to acquaint the student with fundamental phenomena and laws of mechanics, light, heat, electricity, magnetism, and modern physics. Designed for the nonscience student who wishes introduction to physics. Prerequisites: High school algebra. A student may register for the second semester without the first.)						

### Geography and Geology

5-204	Historical Geology (3)	Douglass	Tu	6:10-8:40	\$48	p. 65	
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### Meteorology

5-326	General Meteorology (3)	Goodyear	F	6:10-8:40	\$48	p. 65	
	(Meets at Gramax Building, 13th Street and Georgia Avenue, Silver Spring, Maryland)						
5-593	Structure of Ionosphere (2)	Giraytys	Tu	6:10-8	\$32	p. 66	

### Oceanography

5-476	Applied Underwater Sound (2)	Winokur	Tu	4:45-6:35	\$32	p. 67	
	(Meets at U. S. Naval Oceanographic Office, Suitland, Maryland)						
5-584	Physical Properties of Sea Water (2)	Paulus	W	4:30-6:20	\$32	p. 68	
	(Meets at U. S. Naval Oceanographic Office, Suitland, Maryland)						
5-655	Ocean Surface Waves (2)	Schule	M	4:30-6:20	\$32	p. 68	
	(Meets at U. S. Naval Oceanographic Office, Suitland, Maryland)						
5-546	Physics of Marine Atmosphere (2)	Gilcrest	Tu	4:30-6:20	\$32	p. 68	
	(Meets at U. S. Naval Oceanographic Office, Suitland, Maryland)						
5-666B	Biological Oceanography (Second Half)	(2)	Picciolo	W	4:30-6:20	\$32	
	p. 69	(Meets at National Oceanographic Data Center)					

## PUBLIC ADMINISTRATION

### General Administration

6-341	American National Government (3)	Frederic	M	6:10-8:40	\$48	p. 72	
6-344	Introduction to Public Administration (2)	Sims	W	6:10-8	\$32	p. 72	
6-544	Political Parties (3)	Gruppenhoff	Th	6:10-8:40	\$48	p. 72	
6-515	Legislative Process (2)	Deuster	Tu	6:10-8	\$32	p. 72	
6-400	Administrative Operations for Congressional Assistants (2)	Eller					
	Tu 6:10-8	\$32	p. 72				
6-531	Policies and Techniques for Congressional Liaison (2)	Clifford	W	6:10-8	\$32	p. 72	
6-355	War Against Poverty—USA (2)	Adams	W	6:10-8	\$32	p. 73	
6-440	Metropolis: Government, Finances, and People (3)	House	W	6:10-8:40	\$48	p. 73	
	\$48						
6-445	Civil Rights—Problems and Solutions (3)	Coates	M	6:10-8:40	\$48	p. 73	



No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
6-454	Applied Human Relations in Administration	(3)	Enneis	Tu	6:10-8:40	\$48 p. 74	
6-600	Readings in Public Administration	(3)	Thurston (Coordinator)			To be arranged \$48 p. 74	

### American History

6-251	American History Since 1865	(3)	Rasmussen	W	6:10-8:40	\$48 p. 74	
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### Management and Management Analysis

6-405B	Principles and Techniques of Management Analysis (Second Half)	(3)					
	Greenwood	Th 6:10-8:40	\$48 p. 75				
6-409	Conduct of Management Surveys	(2)	Dinsmore	Th	6:10-8	\$32 p. 75	
6-202	Management—Seminar	(3)	Van Dersal	Th	6:10-8:40	\$48 p. 75	
6-511	Quantitative Approaches to Management Problems	(3)	Moundalexis				
		Tu 6:10-8:40	\$48 p. 76				
6-519	Work Standards and Work Measurement	(2)	Schneider	Tu	6:10-8	\$32 p. 76	
6-550	Techniques of Organization	(3)	Shoub	Th	6:10-8:40	\$48 p. 76	
6-415	Statistical Science in Management	(3)	Mandel	W	6-8:30	\$48 p. 77	
6-513	Network Systems for Project Management	(3)	Smith	Th	6:10-8:40	\$48	
	(Designed to give the student working knowledge of three major network systems: PERT, CPM, and Line of Balance. Their use as systematic approach to management of large and complex programs and projects. Program breakdown structure. Network construction. Time estimating. Probability. Network computation. Critical path analysis. Scheduling. Reporting. Computer utilization. Time/cost optimization. Forecasting and monitoring of projects. Claims analysis.)						

### Personnel Administration

4-114	Federal Personnel Procedure	(2)	Moriarty and Starns	Tu	6:10-8	\$32 p. 56	
6-430	Public Personnel Administration	(3)	Maharay	W	6:10-8:40	\$48 p. 78	
6-432	Management—Employee—Employee—Management Communications	(2)					
	Draheim	Tu 6:10-8	\$32 p. 78				
6-474	Retirement Plans: Design and Administration	(2)	Landay and Zisman				
		Th 6:10-8	\$32				
	(Role of pension and deferred profit sharing plans as supplementary wage practices in industry and government. Their scope, characteristics, prevalence, and relationship to Social Security benefits. Fundamentals of funding. Federal regulation of private plans: Existing and proposed.)						
6-450	Systems Safety Management: Seminar	(3)	Gordon	M	6:10-8:40	\$48 p. 78	
6-444	Position Classification	(2)	Pitcher and Wesp	W	6:10-8	\$32 p. 79	
6-512	Employment and Placement	(3)	Lorentzen and Associates	M	6:10-8:40	\$48 and \$5 laboratory fee p. 79	
6-518	Employee Training and Development	(3)	Stockard	W	6:10-8:40	\$48 p. 79	
6-442	Personnel Planning for Change Under Automation	(2)	Schaffer				
		Th 6:10-8	\$32 p. 80				
6-439	Current Issues in Personnel Administration	(2)	Oganovic	Th	6:10-8	\$32	
	(Professional development in personnel offices. Selection and placement of top career executives. Employee training and development, including disabled and young people. Role of union. Improving incentives awards programs. Prerequisite: Grade GS-9, or above.)						

### Legal Administration

6-422B	Business Law (Second Half)	(2)	Perlman	Tu	6:10-8	\$32 p. 80	
6-503	Law for Government Managers	(2)	Mostow and Trevas	Tu	6:10-8	\$32 p. 80	
6-425	Legal Aspects of Investigation—Criminal Evidence and Procedure	(2)					
	Duncan	Tu 6:10-8	\$32 p. 81				
6-426	Legal Aspects of Sale, Rental, and Purchase of Property	(2)	Duncan				
		Th 6:10-8	\$32				
	(Survey of laws and practices applicable to transfer of property ownership, including personal property and real property. Financial and contractual aspects of acquiring property. Designed for the student seeking general knowledge of problems attendant to acquisition and disposition of property without major emphasis on technical requirements.)						
6-705	Computer Applications in Law	(2)	Beath	W	6:10-8	\$32 p. 81	

### Procurement and Property Management

4-113	Federal Property Procedure	(2)	Boyer	M	6:10-8	\$32 p. 55	
4-115	Federal Purchasing Procedure	(2)				\$32 p. 56	
	Section I	Lough	M	6:10-8			
	Section II	Lough	W	6:10-8			



No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
6-364	Federal Contracting	(2)	Gunther	W	6:10-8	\$32 p. 81	
6-371	Government Construction Administration	(2)	Cohen and Gantt	Th	6:10-8	\$32 p. 82	
6-374	Research and Development Contracting	(2)	Burns	Tu	6:10-8	\$32 p. 82	
6-638B	Government Defense Contracts (Second Half)	(2)	Davidson	Tu	6:10-8	\$32 p. 82	

### Accounting and Financial Management

6-525	Federal Financial Administration	(2)	Burris	W	6:10-8	\$32 p. 86	
6-352A	Principles of Accounting (First Half)	(3)				\$48 p. 86	
	Section I		Tronolone	Tu	6:10-9:45		
	Section II		Uyeda	W	6:10-9:45		
	Section III		Sitko	W	6:10-9:45		
	Section IV		Hirschhorn	F	6:10-9:45		
6-352B	Principles of Accounting (Second Half)	(3)				\$48 p. 86	
	Section I		Palenski	M	6:10-9:45		
	Section II		Carter	Tu	6:10-9:45		
	Section III		Skinner	Th	6:10-9:45		
6-353A	Intermediate Accounting (First Half)	(3)	Instructor to be announced				
	Th 6:10-8:40		\$48 p. 87				
6-353B	Intermediate Accounting (Second Half)	(3)	Hord	M	6:10-8:40	\$48 p. 87	
6-420B	Advanced Accounting—Theory and Problems (Second Half)	(3)	Baron	M	6:10-8:40	\$48 p. 87	
6-264A	Federal Government Accounting (First Half)	(2)	Canada	W	6:10-8	\$32 p. 87	
6-264B	Federal Government Accounting (Second Half)	(2)	Canada	Th	6:10-8	\$32 p. 87	
6-276	Public Utility Procedures and Methods	(3)	Heim	Tu	6:10-8:40	\$48	
	(Public utility accounting, economics, rate making, rate of return procedures, with emphasis on legal concepts of public utility regulations.)						
6-642B	Cost Accounting (Second Half)	(3)	Lobb	W	6:10-8:40	\$48 p. 88	
6-510	Analysis and Interpretation of Financial Statements	(2)	Mason	Th	6:10-8	\$32 p. 88	
6-645B	Federal Income Taxes (Second Half)	(3)	Wilson	Tu	6:10-8:40	\$48 p. 88	

### SOCIAL SCIENCES

#### Economics

7-201A	Principles of Economics (First Half)	(3)	Duskin	M	6:10-8:40	\$48 p. 89	
7-201B	Principles of Economics (Second Half)	(3)	Shapiro	Th	6:10-8:40	\$48 p. 89	
7-548B	Intermediate Economic Analysis (Second Half)	(3)	Edwards	Tu	6:10-8:40	\$48 p. 90	
7-476	Public Finance and Fiscal Policy	(3)	Wagner	Tu	6-8:30	\$48 p. 90	
7-480	Money and Banking	(3)	Shapiro	Tu	6:10-8:40	\$48 p. 91	
7-528	International Trade and Commercial Policy	(3)	Kelly	M	6:10-8:40	\$48 p. 93	
7-532B	International Marketing and National Export Expansion (Second Half)	(3)	Trotter	Th	6:10-8:40	\$48 p. 93	
7-260	Economic Geography	(3)	Trotter	Tu	6:10-8:40	\$48 p. 93	
7-3	How and Why of Stock Investments II (non-credit)		Wexler	Tu	6:10-8	\$32 p. 94	

#### Human Relations

7-210	General Psychology	(3)				\$48 p. 94	
	Section I		De Haan	M	6:10-8:40		
	Section II		Gould	W	6:10-8:40		
7-222	Psychology of Adjustment	(3)	Brady	W	6:10-8:40	\$48 p. 94	
7-446	Personnel Psychology	(3)	Brady	Th	6:10-8:40	\$48 and \$2 laboratory fee p. 95	
7-544	Psychological Foundations of Creativity for Professional Improvement	(3)	Arasteh	M	6:10-8:40	\$48 p. 95	
7-442	Personality Integration and Problems in Living	(2)	Cornsweet	M	6:10-8	\$32 p. 96	
7-541	Improving Human Relations and Group Behavior	(2)	Bauer	M	6:10-8	\$32 p. 96	
7-600	Readings in Human Relations	(3)	Kraus	To be arranged			\$48 p. 96
7-303	Child and Adolescent Psychology	(2)	Stammeyer	Tu	6:10-8	\$32 p. 96	
7-710	Abnormal Psychology	(3)	Kyriazis	M	6:10-8:40	\$48 p. 96	
7-466	General Semantics—Seminar	(2)	Eldridge	W	7:10-9	\$32 p. 97	
	(Meets in Georgetown)						

No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
7-536	Psychological Tests and Measurements	(3)	Dupuy	W	6:10-8:40	\$48	p. 97
7-741	Changing Human Behavior—Seminar	(2)	McPherson	Tu	6:10-8	\$32	p. 97
7-464	Computers in Behavioral Sciences	(3)	White	W	6:10-8:40	\$48	p. 98
7-494	Research Methodology in Behavioral Sciences	(2)	Wright	M	6:10-8	\$32	p. 98
7-538	World Population Trends and Problems	(3)	Siegel	S	9:30-12	\$48	p. 98
7-552	Racial Conflict in United States—Seminar	(3)	Wright	W	6:10-8:40	\$48	p. 98
7-554	Crime Problem	(3)	Kramer	M	6:10-8:40	\$48	p. 99
7-115B	Introduction to Sociology (Second Half)	(3)	Weinstein	Th	6:10-8:40	\$48	p. 99
7-749	Urbanization and Mental Health	(3)	Lieberman and Associates	Tu	6:10-8:40	\$48	
	(Consideration of mental health in urban society. Meaning of mental health in urban America. Civil disorder, its causes and aftermath. Urban cultural analysis. Role of professional in urban ghetto. New forms of health and welfare services for metropolitan areas. Role of youth groups in minority community. Role of urban research during urban crisis. Prerequisite: Bachelor's degree in social sciences preferred.) (Given in cooperation with Center of Studies of Metropolitan and Regional Mental Health Problems, National Institute of Mental Health)						
	(Meets at Barlow Building, 5454 Wisconsin Avenue, N.W., Chevy Chase, Maryland)						
7-706	Sociological Literature—Seminar	(3)	Johnston	To be arranged		\$48	p. 99
7-309	History of Philosophy	(3)	Piersol	Tu	6:10-8:40	\$48	p. 99
7-319	Nature in Philosophy and Religion	(2)	Joranson	M	6:10-8	\$32	
	(Understanding of nature and man-nature relations in some of philosophies and religions of West and Far East. Evaluation of attitudes and concepts in terms of apparent value in undergirding ethical and creative human relations with nature. Includes, from West: Studies of Biblical themes in light of modern knowledge, St. Francis of Assisi, some modern theologians, Teilhard de Chardin, and several Western philosophers; from Far East: Buddhism, Taoism, and Shintoism.)						

## International Relations

7-528	International Trade and Commercial Policy	(3)	Kelly	M	6:10-8:40	\$48	p. 93
7-566	Sources of Conflict and Conflict Resolution in Man, Society, and International Relations	(3)	Arasteh	W	6:10-8:40	\$48	p. 100
7-542	Russia: Yesterday, Today, and Tomorrow	(3)	Czajkowski	W	6:10-8:40	\$48	p. 101
7-499	Introduction to Modern China	(3)	Simon	M	6:10-8:40	\$48	p. 101
7-557	Latin American Developments and Potentials	(3)	Richardson	M	6:10-8:40	\$48	
	(Regional appraisal of Latin America in Western Hemisphere to analyze current social, economic, and political conditions. Legacy of exploitation traced from earlier days through current socio-political clashes arising from land reforms and improved transportation and communication. Political relations with United States. Various pressure points in international relations.)						
7-568	American Diplomatic History since 1900	(3)	Whelan	Tu	6:10-8:40	\$48	p. 101
7-20	World Politics—Study Discussion Group (non-credit)		Sweeney	W	6:10-8	\$22	p. 101 (10 weeks)

## TECHNOLOGY

### Engineering

8-92	Review of Engineering Fundamentals for P. E. Examination (non-credit)		Rixse	W	6-9	\$48	p. 103
8-93	Civil Engineering Review for P. E. Examination (non-credit)		Sears	M	6:10-8:40	\$48	p. 103
8-95	Electrical Engineering Review for P. E. Examination (non-credit)		Jessel and Associates	W	6:10-8:40	\$48	p. 104
8-110B	Principles of Electricity (Second Half)	(2)	Askegaard	M	6:10-8	\$32	p. 104
8-465B	Applied Electronic Theory (Second Half)	(3)	Cullinane	M	6:10-8:40	\$48	p. 104
8-525B	Transistor Electronics (Second Half)	(3)	Laug	Tu	6:10-8:40	\$48	p. 105

No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
8-311B	Naval Architecture and Marine Engineering (Second Half)	(3)	Warters				
	Tu 6:10-8:40	\$48	p. 106				
8-685	Engineering Applications of Digital Computers	(3)	Smith	Th	6:10-8:40		
	\$48	p. 106					
8-730	Introduction to Systems Engineering	(2)	Yanis	Th	6:10-8	\$32	p. 106
8-474	Engineering Economics	(3)	Blum	F	6:10-8:40	\$48	p. 107
8-406	Engineering Mathematics	(4)	Plait	Tu-Th	6:10-8	\$64	p. 107
8-712	Engineering Economic Analysis—Advanced Seminar	(3)	Delson				
	Th 6:10-8:40	\$48	p. 107				
3-546B	Application of Differential Equations to Engineering Theory (Second Half)	(3)	McGrane	W	6:10-8:40	\$48	p. 40
8-714	Heating, Ventilating, and Air Conditioning	(3)	Hollander	M	6:10-8:40		
	\$48	p. 108					
8-600	Design of Planning Futures	(3)	Gerba	Th	6:10-8:40	\$48	p. 108
8-698	Traffic Planning and Operations	(3)	Green	Th	6:10-8:40	\$48	p. 108
8-735	Ultimate Design in Concrete and Plastic Design in Steel	(3)	Nickerson and Sears	W	6-8:30	\$48	p. 109
8-488	Federal Government and Electric Power	(3)	Chase	W	6:10-8:40	\$48	
							p. 109

## Surveying and Mapping

8-210	Practical Astronomy	(2)	Mancini	Tu	6:10-8	\$32	p. 111
8-219	Computation and Adjustment of Geodetic Observations	(3)	Blackburn				
	Tu 6:10-8:40	\$48 and \$2 laboratory fee	p. 112				
8-252	Basic Photogrammetry II	(3)	Edson and Mullen	W	6:10-8:40	\$48	p. 113
8-408	Advanced Aerial Photographic Interpretation	(3)	Chisnell	W	6:10-8:40	\$48	p. 113
3-508	Theory of Errors	(3)	Stearn	W	6:10-8:40	\$48	p. 40
8-125	Cartography I	(3)	Foster	Th	6:10-8:40	\$48	p. 113
8-240	Cartographic Techniques and Map Reproduction	(2)	Basile	Th	6:10-8	\$32	
							p. 114
8-223	Map Projections and Grid Systems	(2)	Basile	Tu	6:10-8	\$32	p. 114

## Fine Arts

8-320	Pencil Sketching and Water Color Painting	(2)	Cupoli	M	6:10-9	\$48 and \$5 laboratory fee	p. 115
8-321	Creative Expression from Life	(2)	McKenna	M	6:10-9	\$48 and \$5 laboratory fee	p. 116.
8-323	Portrait Painting in Oil	(2)	Lazzari	W	6:10-9	\$48 and \$5 laboratory fee	p. 116
8-338	Life Sketching	(2)	Cupoli	Th	6:10-9	\$48 and \$10 laboratory fee	p. 116
8-355	Creative Painting	(2)	Abramowitz	M	4:45-7:35	\$48 and \$5 laboratory fee	p. 116 (Meets at Prince Georges Plaza, Hyattsville, Maryland)
8-366	Anatomy of Creative Art	(2)	Cohen	Th	6:10-9	\$48 and \$5 laboratory fee	p. 116
8-367	Western Art	(3)	Connor	M	6:10-8:40	\$48	p. 116
8-333	Art Appreciation	(3)	Brohel	Tu	6:10-8:40	\$48	p. 116 (Meets in Georgetown)
8-369	Contemporary Art: Its Sources	(3)	Nightlinger	Tu	6:10-8:40	\$48	p. 117
8-336	American Art	(3)	Starr	W	6:10-8:40	\$48	p. 117
8-344	Introduction to Chinese and Japanese Art	(3)	Eagle	W	6:10-8:40	\$48 and \$5 laboratory fee)	
	(Survey of visual arts of China and Japan beginning with Neolithic roots of these arts and tracing their development through major periods. Painting as major art of China. Uniqueness of Chinese brush. Relation of philosophical traditions of Buddhism, Confucianism, and Taoism on arts. State of Chinese art today. Influence of China on art of Japan. How Japanese shaped this influence to make brilliant art of their own.)						
8-353B	History of Architecture (Second Half)	(3)	van Sweden	W	6:10-8:40	\$48 and \$3 laboratory fee	p. 117
	(First semester not prerequisite for second semester.)						
8-354	Problems in Urban Contemporary Development	(3)	van Sweden				
	Th 6:10-8:40	\$48 and \$3 laboratory fee					
	(Social and physical growth of cities since 1800. Emphasis on problems created by industrial revolution in nineteenth century. Coketowns, garden cities, twentieth century suburbia, megalopolis, and planned new towns. Prediction of future urban patterns within United States.)						
8-370	Music Appreciation	(3)	Shortridge	Th	6:10-8:40	\$48 and \$5 laboratory fee	p. 117



No.	Course Title	(Cr.)	Instructor	Day	Time	Fee	Catalog page
8-445B	Music Theory (Second Half)	(3)	Shortridge	W	6:10-8:40	\$48	p. 118
	(Ear training, including interval recognition, melodic and harmonic dictation, and sight reading. Prerequisite: Some ability to read music and bass and treble clefs. First semester not prerequisite for second semester.)						
8-363	Contemporary Theater	(2)	Waters	M	6:10-8	\$32	p. 118
8-373	Motion Picture Appreciation	(2)	Spehr	M	6:10-8	\$32 and \$3 laboratory fee	p. 118

## Applied Arts

8-36	Institutional Housekeeping II (non-credit)		Morgan	Th	6:10-9	\$48	p. 118
8-55	Introduction to Interior Design (non-credit)		Meyer	Th	6:10-8	\$32	p. 118
8-144A	Graphic Arts in Federal Government (First Half)	(2)	Taylor and Wiener				
					M 6:10-8	\$32	p. 119
8-144B	Graphic Arts in Federal Government (Second Half)	(2)	Eysenburg and Taylor	W	6:10-8	\$32	p. 119
8-146	Creative Illustration	(2)	Auld	Tu	6:10-8	\$32	p. 119
8-145	Layout in Visual Communication	(2)	Eysenburg	M	6:10-8	\$32	p. 119
8-140	Dimensional Design	(2)	Baka	W	6:10-8	\$32	p. 119
8-142	Exhibit Graphics and Fabrication	(2)	Schleyer	W	6:10-8	\$32	p. 119
8-285	Landscape Use of Trees, Shrubs, Vines, and Flowers	(2)	Pledger	Th	6:10-8	\$32	p. 120

## Photography

8-70	Introduction to Photography (non-credit)					\$32 and \$2 laboratory fee	p. 120
	Section I	McCullough	W	6:10-8			
	Section II	McCullough	Th	6:10-8			
8-192	Fundamentals of Photography I	(2)				\$32	p. 120
	Section I	Szeluga	M	6:10-8			
	Section II	Warren	W	6:10-8			
8-193	Practice of Photography I	(3)				\$48 and \$4 laboratory fee	p. 120
	Section I	Fuller	M	6:10-8:40			
	Section II	Witte	W	6:10-8:40			
8-195	Fundamentals of Photography II	(2)	Merritt	M	6:10-8	\$32	p. 121
8-196	Practice of Photography II	(2)	Fuller	Tu	6:10-8	\$32 and \$4 laboratory fee	p. 121
8-360B	Portrait Photography (Second Half)	(2)	Purdy	Th	6:10-8	\$32 and \$6 laboratory fee	p. 121
8-270A	Color Photography and Printing (First Half)	(3)	Rodbell	Th	6:10-8:40	\$48 and \$15 laboratory fee	p. 121 (Meets at Walter Reed Armed Forces Institute of Pathology)
8-270B	Color Photography and Printing (Second Half)	(3)				\$48 and \$15 laboratory fee	p. 121
	Section I	Rodbell	Tu	6:10-8:40			
	(Meets at Walter Reed Armed Forces Institute of Pathology)						
	Section II	Trott	W	6:10-8:40			
	(Meets at Chamberlain High School)						
8-274	Photographic Technology	(3)	Lloyd	W	6:10-8:40	\$48	p. 121
8-197	Creative Photography through Composition II	(2)	Miller	M	6:10-8	\$32 and \$2 laboratory fee	p. 122
8-198	Photo-journalism	(2)	Witte	Tu	6:10-8	\$32	p. 122
8-011	Photographic Roundtable (non-credit)		Forte (Advisor)	8-10	First and Third Friday	\$5	p. 122

## Lithography

8-165	Copy Preparation—Pasteup	(3)	Martin	W	6:10-8:40	\$48	p. 122
	(Must be taken concurrently with 8-166)						
	(Meets at Prince Georges Plaza, Hyattsville, Maryland)						
8-166	Copy Preparation—Photographic	(3)	Wray	Tu	6:10-8:40	\$48 and \$24 laboratory fee	p. 122 (Must be taken concurrently with 8-165)
	(Meets at Prince Georges Plaza, Hyattsville, Maryland)						
8-170B	Survey of Lithography (Second Half)	(3)	Reznikoff	M	6:10-8:40	\$48	p. 122 (Meets at Nicholas Orem Junior High School, Hyattsville, Maryland)
8-171B	Offset Stripping and Negative Work (Second Half)	(3)	Hamm				
				Th	6:10-8:40	\$48 and \$10 laboratory fee	p. 123
	(Meets at Prince Georges Plaza, Hyattsville, Maryland)						
8-174B	Offset Photography (Second Half)	(3)	Rankin	Th	6-9	\$48 and \$10 laboratory fee	p. 123
	(Meets at Prince Georges Plaza, Hyattsville, Maryland)						
8-175	Lithographic Estimating	(2)	Roberts	M	6:10-8	\$32	p. 123
	(Meets at Nicholas Orem Junior High School, Hyattsville, Maryland)						

U. S. DEPARTMENT OF AGRICULTURE  
GRADUATE SCHOOL  
WASHINGTON, D. C. 20250

# 1969 SPRING SCHEDULE OF CLASSES

